IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of
Popovsky *et al.*

Serial No. 10/696,069

Filed: October 28, 2003

For: Cleansing Pad

Group Art Unit 1744
Examiner Chin

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

1.132 Affidavit of Eric Jungermann, Ph.D.

I, Eric Jungermann, being duly sworn, depose and say:

1. I have prepared this Affidavit so that it may be considered by the US Patent and Trademark Office in connection with the examination of US Patent Application Serial No. 10/696,069 entitled "Cleansing Pad."

2. I received a Ph.D. in Organic Chemistry from Polytechnic University (Brooklyn, NY) in 1957. My professional career has focused on chemical research and product development in the soap and personal care industry. In 1957 I joined Armour and Company. From 1957 – 1959, I was Section Head, Fatty Acid Research at Armour Industrial Chemical Co. From 1959 – 1965, I was Manager of Research in Armour's Soap and Grocery Products Division. From 1965 – 1976, I was Technical Director and later Vice President of Research & Development at Armour-Dial, Inc. In 1976, I left Armour-Dial to become Director of Corporate Development at Helene Curtis, Inc., maker of "Suave" brand shampoos and hair conditioners. Two years later, in 1978, I founded

Jungermann Associates, Inc a consulting business serving the soap and personal care industry. I am President of Jungermann Associates, Inc, a position I continue to hold. From 1982 - 1992, I also served as Senior Technical Vice President for Neutrogena Corporation.

3. I am an inventor on about 30 granted US and numerous related international patents. I have edited two books – *Cationic Surfactants* (Marcel Dekker, 1970) and *Glycerine: A Key Cosmetic Ingredient* (Marcel Dekker, 1991) – as well as authored five book chapters. Among these publications are chapters on "Soap technology" and "Fat-based Surface Active Agents", both in *Bailey's Industrial Fat and Oil Products*, (4th edition, J. Wiley & Sons, 1979). For nearly fifteen years, I served as an associate editor of the *Journal of the American Oil Chemists' Society*. I am also the series editor of the *Cosmetic Science and Technology Series* published by Marcel Dekker. (To date, 31 books have been published in this series.) In addition, I have made many technical presentations to professional societies including the American Oil Chemists' Society, the Soap & Detergent Association, and the Society of Cosmetic Chemists, as well as published numerous articles in scientific journals and technical trade journals.

4. The term "soap" is understood by persons of skill in the art of soap making technology to mean the alkali salts (sodium or potassium) of mixed fatty acids. The mixed fatty acids are derived from a variety of fats and oils, such as tallow, coconut oil, palm oil, palm kernel oil, olive oil, etc. More particularly, these fats and oils are triglycerides, containing a mixture of fatty acids bound to a single

molecule of glycerine through ester bonds. The triglycerides are typically based on straight-chain, unsaturated or saturated, carbon chains having from about ten to twenty carbon atoms.

5. A common method for soap making is to heat various fats and/or oils with a solution of caustic soda (sodium hydroxide or lye) or potash (potassium hydroxide) in a specific amount to cause saponification, the breakdown of the fats and/or oils into their component fatty soaps and glycerine. Glycerine is then separated from the fatty acids by a "salting out" and washing process. The resultant soap slurry is concentrated and spray dried into soap pellets with a moisture range between 10 – 20%. Another industrial method of soap manufacture is based on the use of a fat splitter (Colgate-Emery process). The fat splitter is a device which employs water under high pressure and at high temperature to produce free fatty acids in an oil phase which rises to the top of the vertical splitter column and glycerine in the water phase that comes out at the bottom of the column The resulting mixed fatty acids are purified by distillation, then neutralized (reacted with caustic soda), and converted into small, solid pellets having a moisture content of between 10% to 20% as described in the first process. These pellets, in turn, are processed into soap bars using crutchers. A detailed description of soaps and soap manufacturing is found in the chapter entitled Soaps that I authored in Volume 1 of *Bailey's Industrial Oil and Fat Products* (Fourth Edition).

6. "Pourable soaps" are different from "soaps" described in sections 4 and 5. Pourable soaps are produced from fats and oils, but <u>without</u> removal of the

liberated glycerin. They are mixtures of soaps (as described above in Paragraphs 4 and 5) to which additives, including additional glycerine, sugars, glycols, amino alcohols, such as triethanolamine, small amounts of certain surfactants, and/or alcohol are added. These ingredients, in combination with the saponified soap containing liberated glycerine result in a solid soap which provides the pourability and meltability properties.

7. Pourable soaps are solid at temperatures of less than about 120°F. When heated above about 120°F – generally from about 120°F to about 160°F – pourable soaps melt and become liquid. When cooled below this melting point range, pourable soaps are reconstituted in solid form without having undergone significant changes in composition. In contrast, soaps (as described in Paragraphs 4 and 5 above) do not melt at elevated temperatures; instead, they decompose, char or burn. "Pourable soaps" are not aqueous solutions of soaps or aqueous solutions of various synthetic detergents.

8. In preparing this Declaration, I have reviewed the following five US Patents cited in the Office Action rejecting Claims 1 – 14 and 27 of the Application 10/696,069 – USPN 5,955,417 ("Taylor"); USPN 5,022,517 ("Benitez"); USPN 3,284,963 ("Lanham"); USPN 5,960,506 ("Reuven"); and USPN 6,171,007 ("Hsu"). None of these five patents teach or suggest pourable soaps. Instead, they teach what persons of skill in the art would understand to be soaps as described above– *i.e.*, sodium or potassium salts of fatty acids from which glycerin has been removed, which do not melt. Some of these references also describe the use of synthetic detergent formulations with chemical structures

that are technically distinctly different from soap. For example, Taylor primarily teaches liquid detergent systems, but also briefly mentions soaps, but not pourable soaps.

9. Upon reading the patents listed in the preceding paragraph, a person of skill in the art would not be motivated or otherwise have a reasonable expectation to substitute a soap (or a synthetic detergent) for a pourable soap and achieve a cleansing pad as claimed in Application 10/696,069. Just the opposite, a person of skill in the art would not attempt to melt soap, knowing that doing so would result in the decomposition, charring or igniting of the soap.

Further Affiant says not.

Dated: January __, 2007
Phoenix, Arizona

Eric Jungermann, Ph.D.
2323 North Central Avenue, #1001
Phoenix, AZ 85004

Sworn to and subscribed before
me on this 23 day January 2007.

OFFICIAL SEAL
DANIEL P. HARRIGAN
NOTARY PUBLIC - ARIZONA
MARICOPA COUNTY
My Comm. Expires June 28, 2009